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PATENT COOPERATION TREATY

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# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>BP107537</b>	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. <b>PCT/FI2003/000664</b>	International filing date (day/month/year) <b>11/09/2003</b>	Priority date (day/month/year) <b>12/09/2002</b>
International Patent Classification (IPC) or national classification and IPC <b>G06F12/14, G06F11/00</b>		
Applicant <b>TALVITIE, JARMO</b>		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 8 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
  - ☐ (sent to the applicant and to the International Bureau) a total of \_\_\_\_\_ sheets, as follows:
    - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input checked="" type="checkbox"/> | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input checked="" type="checkbox"/> | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

Date of submission of the demand <b>08-04-2004</b>	Date of completion of this report <b>09-12-2004</b>
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer  <b>Nabil Sebaa /LR</b> Telephone No. +46 8 782 25 00

Form PCT/IPEA/409 (cover sheet) (January 2004)

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI2003/000664

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))  
☐ publication of the international application (under Rule 12.4)  
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ the international application as originally filed/furnished

☐ the description:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the claims:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the drawings:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI2003/000664

Box No. II Priority

1. ☐ This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:  
☐ copy of the earlier application whose priority has been claimed (Rule 66.7(a)).  
☐ translation of the earlier application whose priority has been claimed (Rule 66.7(b)).
2. ☐ This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rule 64.1). Thus for the purposes of this report, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

The priority is considered valid. Therefore, documents US2003105975 A1 and US2002194489 A1 are of no relevance for this report.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI2003/000664

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	<u>2-38</u>	YES
	Claims	<u>1</u>	NO
Inventive step (IS)	Claims	<u>                    </u>	YES
	Claims	<u>1-38</u>	NO
Industrial applicability (IA)	Claims	<u>1-38</u>	YES
	Claims	<u>                    </u>	NO

## 2. Citations and explanations (Rule 70.7)

The invention defined in claims 1-38 relates to systems, methods and corresponding apparatus for repelling viruses in computers and computer networks.

Traditional anti-virus methods and systems can no longer reliably identify, detect and activate unknown computer viruses and their mutations.

The problem to be solved by the invention is therefore to avoid the above mentioned weaknesses present in traditional anti-virus methods and systems.

Reference is made to the following documents:

D1: US 2002095607 A1

D2: US 2002116639 A1

D3: WO 0036515 A1

D1 relates to virus and intrusion protection devices for computer and computer networks. In D1, an apparatus installed between the actual core part of a computer and an external network; named a network board; is used to detect and identify new unknown viruses before the network board allows the connection to be executed to the rest of the computer (see paragraphs [009] - [0012]).

D2 describes a method and apparatus for handling and eliminating a virus in a network data processing system. In D2, each client computer is loaded with a software agent known as a virus scanner and notifier (VSN) that immediately notifies the virus scanner controller (VSC) residing at a server in the network (see paragraph [0028]; figure 1-2, abstract; paragraphs [0007] - [0009]; [0028] - [0030]; [0050], [0056]).

.../...

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

D3 relates to a method, system and apparatus for isolating a computer system upon detection of viruses and similar data (see page 2, line 1 - page 3, line 9; figure 1; and claims 1-2).

The invention is based on the active search and recognition of yet unknown viruses. The virus activation/detection system of the invention in a timed manner executes actions that may cause a virus to activate.

In D1, detection of yet unknown viruses at the network board would make limited damage to the board, thus activated and the damage is kept local to the board wherein an attempt to catch and repair the damage is performed (see [0021]-[0021], and [0022]-[0024]).

Thus, the method in D1 does take actions as new unknown viruses are caught and the remaining part of the system is in that way successfully separated from the external network in order to hinder attempts to intrude. The same reasoning is used by the applicant on page 20, lines 26-36.

Therefore, additional arguments presented in the written opinion (see below) concerning claims 1-38 are still used in this report.

#### Claim 1

The claimed invention according to claim 1 describes a security system for repelling viruses. The system includes a first sub-system adapted in connection with the forwarding of messages to detect unknown viruses and to perform one action to activate the unknown viruses.

Document D1 discloses a security system for repelling viruses. The system as illustrated in D1 (see figure 1 and paragraph [0009]), shows a security system which includes a Network Board (reference 22 in figure 1) acting as the sub-system of claim 1.

The Network Board is also adapted in connection with the forwarding of messages to detect unknown viruses and to perform one action to activate the unknown viruses.

.../...

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

The detection and action taken by the network board are described in D1 (see paragraphs [0020]-[0021], [0011]). Therefore, the claimed invention according to the wording of claim 1 lacks novelty.

## Claim 2

According to claim 2, the security system is adapted to forward an alarm caused by the detection of a virus to a system connected to the security system. In D1, an IT alert check (see figure 1, reference 48) software is present acting as an additional safeguard in case unknown viruses might be present. The IT check software residing in the sub-system might be connected to an IT department or an ISP. The ISP or IT department creates an "alert bulletin board" posting any new viruses. The IT check software automatically accesses the bulletin board residing at the ISP. Thus, alarms caused by the detection of new possible viruses are forwarded between the ISP and the IT alert check software of the network board. The claimed invention according to claim 2 is therefore considered to lack an inventive step.

## Claim 3

As an additional safety guard, a switching mechanism can be used to disconnect the sub-system described in D1 from other systems (external network or main core of computer) (see figure 1, paragraph [0023], and claims 11 and 13). Thus, the switch used in D1 can be used to disconnect the sub-system in case an alarm caused by the detection of a virus is received. The claimed invention according to claim 3 is therefore considered to lack an inventive step.

## Claims 4-9

The claimed invention according claims to 4-9 describes only obvious embodiments that are considered obvious to a person skilled in the art. These claims are therefore not considered to involve an inventive step.

## Claim 10, 24

In D1, two separate connections are handled by the switch: connection A towards the external network is connected to the network board; and connection B is used between the network

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI2003/000664

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

board and the main core. Thus, the claimed invention according to claim 10, 24 lacks an inventive step. See also D3 (figure 1), where two separate communication channels are used for isolating the virus in case it is detected.

Claims 11-19, 21-23, 25-30, 32-38

Taking the prior art known from D1 and D2 into account, claims 11-19, 21-23, 25-30, 32-38 are considered to describe the invention through features well known in the art. Hence, the invention according to these claims is considered to lack an inventive step.

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI2003/000664

## Box No. VI Certain documents cited

### 1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
US2003105975 A1	5/06/2003	25/11/2002	30/11/2001
US2002194489 A1	19/02/2002	27/11/2001	

### 2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)